

**Utah State
Fire Marshal's Office**

**Sprinkler
Technician I**

**(Wet Pipe Sprinkler Systems
Antifreeze Sprinkler Systems &
Stand Pipes)**

Certification Program

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| Task Book Assigned to: |
| Individual's Name, Company Name |
| Date Issued by State Fire Marshal's Office |

The material contained in this book accurately defines the performance expected of the position for which it was developed. This task book is approved for use as a position qualification document in accordance with the instructions contained herein.

EVALUATOR

DO NOT COMPLETE THIS UNLESS YOU ARE RECOMMENDING THE APPLICANT FOR
CERTIFICATION

VERIFICATION OF COMPLETED TASK BOOK FOR THE POSITION OF

Sprinkler Technician Level I

FINAL EVALUATOR'S VERIFICATION

I verify that all tasks have been performed and are documented with appropriate initials.

FINAL EVALUATOR'S SIGNATURE AND DATE

EVALUATOR'S PRINTED NAME, TITLE, BUSINESS NAME, AND PHONE NUMBER

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UTAH STATE FIRE MARSHAL TASK BOOK for

SPRINKLER TECHNICIAN I

Task Books (TB) have been developed for this position to meet the requirements as established in Utah Code R710-5 as administered by the Utah State Fire Marshal's office. Each Task Book lists the performance requirements (tasks) for the specific position in a format that allows an applicant to be evaluated against written guidelines. Successful performance of all tasks, as observed and recorded by an evaluator, will result in a recommendation to the State Fire Marshal's Office that the applicant is eligible to be certified as a Technician I.

Evaluation and confirmation of the applicants performance of all the tasks may involve more than one evaluator. All bullet statements within a task which require an action (contain an action verb) must be demonstrated before that task can be signed off. A more detailed description of this process, definitions of terms, and responsibilities are included in NFPA 25.

The Company is responsible for:

- Selecting technician candidate that meet its needs and meet employment requirements.
- Ensuring that the technician candidate meets the training and experience requirements included in the prerequisites for this certification.
- Initiating Task Books to document task performance.
- Explaining to the technician candidate the purpose and processes of the Task Book as well as the applicants responsibilities.
- Providing opportunities for evaluation and/or making the technician candidate available for evaluation.
- Providing an evaluator for assignments.
- Tracking progress of the technician candidate.
- Confirming Task Book completion.
- Determining eligibility and recommendation for examination.

The Technician Candidate is responsible for:

- Reviewing and understanding instructions in the Task Book.
- Identifying desired objectives/goals.
- Providing background information to an evaluator.
- Satisfactorily demonstrating completion of all tasks for an assigned position.
- Assuring the Evaluation Record is complete.

- Notifying company personnel when the Task Book is completed and providing a copy.
- Keeping the original Task Book in personal records.

The Evaluator is responsible for:

- 1- Understanding the Sprinkler Technician task book, examination and certification program.
- 2- Being qualified and proficient in the systems being evaluated.
- 3- Meeting with the technician candidate and determining past experience, current qualifications, and desired objectives/goals.
- 4- Reviewing tasks with the technician candidate.
- 5- Explaining to the technician candidate the evaluation procedures that will be utilized and which objectives may be attained.
- 6- Identifying tasks to be performed during the evaluation period.
- 7- Accurately evaluating and recording demonstrated performance of tasks. Satisfactory performance shall be documented by dating and initialing completion of the task.

The Final Evaluator is responsible for:

- 1- Signing the verification statement inside the front cover of the Task Book when all tasks have been initialed and if the technician candidate is recommended for examination.

R710-5 Automatic Sprinkler System Inspection & Testing
Manipulative Skills Task Book

Technician Level I Tasks

Wet Pipe Sprinkler Systems, Antifreeze Systems and Standpipes

| Tasks | Explain how task was performed and why. | Business Address where task was completed | Evaluator Initial, Certification #, and date upon completion of task |
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| Wet Pipe System | | | |
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| Determine if original installation drawings and calculations are on the premises as required by standards. | | | |
| Determine if previous year's inspection and testing records are on site as required by standards. | | | |
| Determine if occupancy has changed since the last inspection. | | | |
| Determine if the use or process of building has changed since the last inspection. | | | |
| Determine if storage configuration has changed since the last inspection. | | | |
| Determine if the building has been remodeled or changed since the last inspection. | | | |
| Determine if the system has been in continuous service since the last inspection | | | |
| Determine if proper notification has been given to AHJ, alarm company etc. before testing. | | | |
| Determine location of system riser or control valve and if it meets standards. | | | |
| Determine if all identification signs are in place and legible. | | | |
| Determine what hazard is being protected. | | | |
| Determine if valves are properly supervised. | | | |
| Determine if water supply is adequate for system. | | | |
| Determine if system is pipe scheduled or hydraulically calculated. | | | |
| If hydraulically calculated is a hydraulic nameplate on the riser? Is it legible? | | | |

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| Complete a visual inspection of the sprinklers from floor level. | | | |
| Verify sprinklers do not show signs of leakage. | | | |
| Verify sprinklers are free of corrosion. | | | |
| Verify sprinklers are free of foreign materials. | | | |
| Verify sprinklers are free of paint. | | | |
| Verify sprinklers are free of physical damage. | | | |
| Verify sprinklers are in the proper orientation. | | | |
| Verify sprinklers are free from unacceptable obstructions to spray patterns. | | | |
| Verify the proper number of sprinklers and type in the head box. | | | |
| Verify a sprinkler wrench is available for each type of sprinkler. | | | |
| Complete a visual inspection of the pipe and fittings from floor level. | | | |
| Verify pipe and fittings are free of mechanical damage. | | | |
| Verify pipe and fittings are free from leakage. | | | |
| Verify pipe and fittings are free from corrosion. | | | |
| Verify pipe and fittings are free from misalignment. | | | |
| Verify pipe and fittings are free from external loads by materials resetting on or hanging from the piping. | | | |
| Complete a visual inspection on the hangers and seismic bracing from floor level. | | | |

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| Verify that hangers or seismic bracing is not loose or damaged. If so, replace or reattach. | | | |
| Verify gauges are in good condition. | | | |
| Verify gauges on gridded systems are provided with a relief valve. | | | |
| Verify alarm devices are free of physical damage. | | | |
| Verify sprinklers installed before 1920 are replaced. | | | |
| Verify when sprinklers have been in service for 50 years they have been tested or replaced. Test procedures shall be repeated at 10 year intervals. | | | |
| Verify when fast response sprinklers have been in service for 20 years they have been tested or replaced. Test procedures shall be repeated at 10 year intervals. | | | |
| Verify solder-type sprinklers with temperature of 325°F have been tested at 5 year intervals. | | | |
| Verify when sprinklers have been in service for 75 years they have been tested or replaced. Test procedures shall be repeated at 5 year intervals. | | | |
| Verify that dry sprinklers that have been in service for 10 years have been tested or replaced. If maintained they shall be retested at 10 year intervals. | | | |
| Verify sprinklers in harsh environments, corrosive atmospheres or corrosive water supplies have been tested or replaced on a 5 year basis. | | | |

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| Verify gauges have been replaced or calibrated within the last 5 years. Calibration accurately within 3% of full scale. | | | |
| Verify before opening any test or drain valves there is adequate provisions for drainage. | | | |
| Operation of control valves from full open to full closed. How many turns did it take? | | | |
| If a Post Indicator Valve (PIV) is installed verify the rod has not become detached from the valve. | | | |
| Verify alarm device activation by opening and flowing inspectors test. | | | |
| Verify water motor alarm is operating properly and free of any debris. | | | |
| Perform a proper main drain test and record the results. | | | |
| Verify the main drain test complies within accepted variances from previous tests and original commissioning test. | | | |
| Verify internal inspection on alarm valves have been completed every 5 years unless tests indicate a greater frequency is necessary. | | | |
| On alarm valves verify strainers, filters and restricted orifices are inspected internally every 5 years. | | | |
| Verify internal inspection on check valves have been completed every 5 years to verify all components operate correctly, move freely, and are in good condition. | | | |

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| Verify the isolation valves on backflow prevention assemblies are in the normal position and properly supervised. | | | |
| Verify on reduced pressure assemblies (RPA) the differential-sensing valve port is operating normally. | | | |
| Verify systems where the sole water supply is through a backflow preventer/or pressure reducing valve the main drain is completed on a quarterly basis with proper recorded documentation. | | | |
| Perform a forward flow test on backflow preventers. Test must be conducted at system demand including hose stream demand. | | | |
| Verify on backflow systems larger than 2" a proper method of measuring flow is used to determine forward flow requirements have been verified and documented. | | | |
| Verify a backflow performance test has been completed by a licensed individual certified by the Utah State Health Department. | | | |
| Verify the fire department connections are visible and accessible. | | | |
| Verify FDC couplings or swivels are not damaged and rotate smoothly. | | | |
| Verify FDC plugs or caps are in place and undamaged. | | | |
| Verify FDC gaskets are in place and in good condition. | | | |
| Verify FDC signs are in place and in good condition. | | | |

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| Verify FDC check valve is not leaking. | | | |
| Verify automatic drain valve is in place and operating properly. | | | |
| Verify the FDC clappers are in place and operating properly. | | | |
| Antifreeze Systems | | | |
| Verify the freezing point of the antifreeze by measuring the specific gravity with a hydrometer or refractometer. | | | |
| Verify that in CPVC systems only glycerin is used. | | | |
| Verify that the antifreeze solution used is in compliance with state and local health regulations. | | | |
| Standpipe Systems | | | |
| Determine standpipe class. Class I, Class II or Class III. | | | |
| Determine type of standpipe. Automatic-Dry, Automatic-Wet, Semiautomatic Dry, Manual Dry, or Manual Wet. | | | |
| Verify pipe and fittings are free of mechanical damage. | | | |
| Verify pipe and fittings are free from leakage. | | | |
| Verify pipe and fittings are free from corrosion. | | | |
| Verify pipe and fittings are free from misalignment. | | | |
| Verify pipe and fittings are free from external loads by materials resetting on or hanging from the piping. | | | |
| Complete a visual inspection on the hangers and seismic bracing from floor level. | | | |
| Verify that hangers or seismic bracing is not loose or damaged. If so, replace or reattach. | | | |

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|---|---|---|--|
| Determine location of all hose cabinets. | | | |
| Verify condition of cabinet and that it is free of debris and damage. | | | |
| Verify cabinet door will open fully. | | | |
| Verify cabinet door glazing is not cracked or broken. | | | |
| If cabinet is a break-glass type verify the lock is functioning properly. | | | |
| Verify the glass break device is attached. | | | |
| Verify cabinet has proper identification signs. | | | |
| Determine type and length of fire hose provided. | | | |
| Verify condition of hose, is it free of mildew, rot or damage from chemicals, cuts or abrasions. Rerack hose on different hanging points. | | | |
| If hose rack is installed in cabinet verify hose rack will swing out at least 90° from cabinet. | | | |
| Verify that hose is connected to hose rack nipple or valve. | | | |
| Determine if shutoff nozzles are provided on hose. If not, nozzles should be replaced. | | | |
| Determine if pressure regulating devices are provided at hose stations. | | | |
| Verify hose valves have caps in place and are not damaged. | | | |
| Verify hose valve threads have been inspected for damage. | | | |
| Verify hose valve handles are present and not damaged. | | | |
| Verify hose valve gaskets are not damaged or deteriorated. | | | |

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|--|---|---|--|
| Verify hose valves are not leaking. | | | |
| Verify hose valves have no obstructions present. | | | |
| Verify hose valves have restricting devices if required. | | | |
| Verify gauges have been replaced or calibrated within the last 5 years. Calibration accurately within 3% of full scale. | | | |
| Determine if fire pumps support the system. If so, the pump and system must be inspected by a Level II Technician. | | | |
| Verify before opening any test or drain valves there is adequate provisions for drainage. | | | |
| Operation of control valves from full open to full closed. How many turns did it take? | | | |
| If water damage is a possibility an air test shall be conducted on the standpipes with 25 psi pressure before introducing water to the system. | | | |
| Perform a proper main drain test and record the results. | | | |
| Verify the main drain test complies within accepted variances from previous tests and original commissioning test. | | | |
| Verify hose valves on Class I and Class III standpipes are tested annually by fully opening and closing valves. | | | |
| Verify hose valves on Class II standpipes are tested every three years by fully opening and closing valves. | | | |

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| Verify a flow test is conducted every 5 years at the hydraulically most remote standpipe. Verify flow and pressure requirements are met. | | | |
| On pressure reducing valves verify a partial flow test on each valve is conducted annually. | | | |
| Verify a full flow test is conducted on each pressure reducing valve at 5-year intervals and results shall be compared to previous results. | | | |
| Verify a hydrostatic test on dry standpipes and dry portions of wet standpipe systems are conducted on 5-year intervals. Hydrostatic testing must meet minimum standards i.e. 200 psi for 2 hours or 50 psi in excess of the maximum pressure when maximum pressure exceeds 150 psi. | | | |